

ABERFELDY COMMUNITY COUNCIL

March Meeting

PKC Proposal for Trial of Speed Bumps/Cushions in Aberfeldy

A position paper prepared by Pat Spicer of the Road Safety Group

Summary

In March 2019 the Environment Committee sanctioned a trial of a whole town 20mph limit in Aberfeldy. This will commence in March 2020 and run until August-September 2020 when an evaluation will take place as to whether the 20mph zone will become permanent or not. PKC Traffic and Networks more recently decided that they wanted to trial speed bumps/cushions (speed bumps hereafter) during part of this trial period and are now consulting on whether to proceed with this (for map of proposed locations please see Appendix 3). The original deadline for feedback was February 28th in respect of the initial installation on Taybridge Drive. An extension was requested so that this could be discussed at the Community Council on March 3rd, and Blair Watt of PKC confirmed that he was happy to allow this.

In no previous meeting between the Road Safety Sub-Group of the Community Council (RSSG) and Council officers has the use of speed bumps/cushions ever been mentioned as an option. In the short time since we became aware of this proposal, it has not proved possible to meet as a group or with Traffic and Networks officers. The limited discussion in the group has shown a split opinion on their use. What follows therefore is not an RSSG position.

I have done a limited amount of research on this topic and this is presented in the more extensive paper attached. I am recommending that we request that a trial of speed bumps does not take place at this time. I offer some alternative options.

Reasons

- 1) Running concurrently with the 20mph trial may complicate the analysis of the results and degrade the value of that trial.
- 2) It is well known that speed bumps are effective in reducing vehicle speeds. Another experiment to prove that, is completely redundant.
- 3) There is much in the literature about downsides to speed bumps as an approach. It does not appear that these have been fully considered in proposing the trial or in the monitoring that is to take place to form an opinion after the trial. No success/failure criteria have been set.
- 4) The design of the trial goes against national policy on the use of traffic calming measures of this type as regards spacing.
- 5) One of the key objections to speed bumps is that they can delay or give serious problems to emergency services vehicles, even where the design is suitable, because of parked cars. Their use on Taybridge Drive and Taybridge Terrace which is a valuable alternative through-route when there is congestion or actual blockage on the main road seems to me unwise and not well thought through. Even with the best design, they may be a serious drawback for our fast response vehicle.

- 6) Despite this being described as an experiment, the bumps to be installed on Taybridge Drive are of “permanent” asphalt construction.

Options

- 1) Agree the trial, but request that it be re-designed in line with the National policy recommendations as to spacing.
- 2) Do not conduct the trial now. If the 20 mph zone has been deemed to have failed in the sense of not reducing speeding sufficiently, but is to be retained (this is a possible outcome) and further effort is to be made to reduce speeding, consult fully on the options to be tried. If agreed, conduct appropriately designed trials at that point. This is in line with the recommended approach to traffic calming in National Policy.
- 3) Drop the idea altogether as having too many downsides.

Speed Bumps and / or Cushions in Aberfeldy – A discussion paper

Introduction

Speeding is a significant problem in Aberfeldy which raises both the probability of accidents happening and of the outcomes being more severe when/if they do. Various measures have been taken to try to reduce speeding on our streets following on from the main round of surveys in 2017. This programme was formulated through multi-stakeholder meetings in November 2017 and February 2018, which discussed solutions, and a number of follow-on meetings, surveys and other work. Approaches to be taken were summarised in the three “E”s – Engineering, Enforcement, & Education.

The four VASS on the arterial roads, the crossing currently being constructed on Kenmore Street and the buildout on Crieff Road are clear expressions of the effort that has emerged.

Out of this effort has also emerged the proposal from PKC that Aberfeldy be one of five locations to trial a whole town 20mph approach. This was approved by the Environment Committee in March 2019. The committee paper talks of additional traffic calming approaches, if the 20mph zone is seen not to work. Speed bumps/cushions are not mentioned, discussed or suggested as part of the experiment. The paper does not discuss what would be considered a successful outcome or what failure would look like. It mentions opinion surveys and speeds analysis as the methods to be used to underpin evaluation.

The 20mph trial is due to start in March 2020.

Proposed Speed Bump Trial

More recently, PKC have announced the intention to install speed bumps/cushions in all five of the 20 mph trial areas. Specifically, in Aberfeldy, they are proposed to be installed on Taybridge Drive (TD) in May (two sets) and on Taybridge Terrace (TT) in July (again two sets). Those on TD will be permanent, asphalt bumps. Those on TT temporary, removable “cushions”. Despite the permanent nature of those on TD, this is described as an experiment. As with the 20mph trial, no success or failure criteria are laid out.

Speed Bumps as Traffic Calming Measures

These have been around a long time. It is well known that they are effective in reducing vehicle speeds.

Another experiment to prove that, is completely redundant.

It is also well known that there are downsides to their use. The question that needs to be answered is one of balance. Does the speed reduction advantage outweigh the downsides, in a given location? This paper is designed to bring together some of the arguments, so that the Community can make a judgement as to whether this experiment should proceed now, at some point in the future or not at all. That view will then be expressed through our Community Council to PKC. This will be on the Agenda next Tuesday March 3rd.

For speed bumps

They are highly effective in getting road users to slow down.

Experience has shown that careful design and with well-maintained, high visibility, can offset many, if not all, of the downsides.

Against speed bumps

They can be difficult for cyclists or motorcyclists to navigate;

Local residents can complain about noise and sometimes vibration caused by lorries;

Additional traffic noise, as vehicles slow down before bumps and accelerate afterwards, can be an irritant as the variability of the noise level means it is more noticeable than before;

The road humps, street painting and sign change the character of a street;

They can be painful to drive over for the elderly or those in pain;

They can cause serious problems for the emergency services, both reducing speed, and causing discomfort for ambulance patients;

They are costly to put in and maintain;

They can cause adjacent road surfaces to break up faster than they otherwise would;

They are known to cause accidents when not maintained through traffic hitting them, unawares, at inappropriate though not necessarily high speeds, particularly after dark;

Researchers have previously found that braking before and accelerating after speed bumps – or humps – can increase exhaust emissions;

They frequently cause damage to vehicles, even at normal speed levels;

While Speed bumps undoubtedly reduce vehicle speeds, there is very little evidence to support the contention that they reduce accident frequency, which is one of the goals;

Finally, to quote one source, they are a very blunt instrument. They inconvenience and potentially harm drivers who are complying with the rules of the road and already driving with care and a good attitude. Why pick on them?

The case for sustainable change

Ultimately, the most cost-effective solutions are good design from the outset and education. If folk truly learned to drive according to the Highway Code and maintained that life long, the savings in terms of harm and the follow up would be enormous and free resources for more constructive activities. A pipe dream maybe? Perhaps, but Education was clearly espoused as *the* long-term solution back in February 2018, by those experienced in the field, and I think this is still true. Enforcement is not popular and antagonises rather than winning hearts and minds. Speed bumps are a form of enforcement and they have that impact of antagonising.

A Community View

A simple Yes / No poll was conducted on the Community Noticeboard FB page. 52 said yes, 156 said no to speed bumps (Nos as at 13.30, 28/2/2020).

A counter proposal

Do not do the speed-cushion trial now. Let the 20mph trial run its course. If the data are suggesting total failure (needs to be agreed what that is) in August/September 2020, re-consider an experiment with speed bumps. Make sure it is designed using all the learning elsewhere and that success and failure criteria are established before the trial.

Aside from any other consideration, installing the speed bumps part way through the 20mph trial may produce results that are ambiguous and undermine the value of the trial in developing the 20mph policy. Too many variables always makes for poor science and contention in what has been learned.

One example of the flawed nature of the present experiment, most likely arising from the time pressures that PKC staff are under, is that it does not meet the recommended spacing criteria for speed calming measures. The two sets on TD are c 160m apart vs a recommended spacing of 60-80m (Designing Streets, page 32).

The specific trial location

One of the challenges for design of speed calming solutions on TT/TD is having a shared view of how this street should be categorised. If it is considered as “residential” and through traffic as using it as “Rat-running”, the approach will naturally be different to those who see it as a very valuable way of through traffic avoiding congestion in the centre of the town.

Every street in Aberfeldy can be considered as residential.

The route along Home Street – Market Street – Taybridge Terrace – Taybridge Drive is the only option for transiting Aberfeldy if the main road is blocked. As such it is extremely valuable to the emergency services when the town square is blocked for any reason, planned or otherwise. Also, in the longer-term development of the town square, this factor should be considered. The choices made, now in the context of an experiment, that is being conducted under time pressure, which might compromise this, should be resisted.

References:

Designing Streets – A Policy Statement for Scotland. The Scottish Government 2010. ISBN: 978-0-7559-8264-6

Manual for Streets – UK Government, Department for Transport, 2007. ISBN: 978-0-7277-3501-0

SCOTS National Roads Development Guide. June 2017

TRAFFIC ADVISORY LEAFLET 2/05 Traffic Calming Bibliography. UK Department for Transport 2005

TRAFFIC ADVISORY LEAFLET 3/91 Speed control humps - Scotland, England and Wales. UK Department for Transport 1991

Appendix 1

In order to better understand the two experiments, I have twice spoken with Blair Watt the Engineer responsible for putting this together.

In the second of these conversations I sought answers to these questions (previously put to him in writing):

- 1) Who decided speed bumps should be incorporated in the trial at this late stage? (They were not in the original paper that went to the Environment Committee.)
- 2) Why was this done?
- 3) Is there a PKC policy document based on local or national level work looking at the pros and cons of speed bumps? (I have been reading a ROSPA document on street design and this says that such things should start with National and local level policies – much like PKC are trying to develop a local policy on 20 mph zones).
- 4) Critically, in designing this trial, what are the success and failure criteria? Unless you know what you are looking to achieve, and the experiment is designed and monitored for these criteria, how will you know whether it is a success or failure?
- 5) Analysis of the data from the speed monitoring for the impact of the 20 mph trial will be complicated by concurrent trials, particularly with the split in timing of the installations on TT and TD. If this was considered as part of the decision to press ahead with bumps/ cushions, please can you share this with us.
- 6) Given the above thought, was there any thought to success and failure criteria for the 20 mph trial? If a paper was written trying to look forward to possible responses and their analysis, much as I suggested on Monday (in the first conversation), again I would be pleased to receive it.

Answers:

The decision was taken within PKC Traffic and Networks team. The design was based on collective experience and the advice of the senior engineer in the team, Brian Cargill. The proposal to add this to the planned and approved 20 mph trial was notified by e-mail to the Community Council and our elected representatives in January. The lack of objections was taken as approval and this was why the consultation letter states this was approved in the way it did. Blair agreed that this was misleading. It should be noted that one reason for the approach is that time is running out under the original RTO governing the trial. This has a maximum period of 18 months. If the trial and a decision on the future is not taken in that time-scale, the law requires the experimental area to be returned to its pre-trial layout. PKC do not want this to happen. Their timetable is to complete the trial and analysis so the 20 mph zone can be retained should that be the decision.

In Blair's answers there was no reference to any underlying policy, previous trials, formal design rules, analysis of pros and cons. He did however say that the emergency services were always consulted on these matters, though they rarely respond. He also said that detailed design has not been completed and I expressed concerns about the Emergency Response Vehicle.

Blair also indicated that the speed bump trial was prompted by the desire to set policy for solution responses when communities complain of speeding issues in the future. Given the investment in the trial process, they hoped that the addition of the speed bumps would give them additional material to inform policy for the future. Time was against them for a more considered response and consultation.

In discussing the policy approach to design, Blair indicated work loads were such that researching what had been done elsewhere was not possible.

There is no PKC policy on speed bumps.

No success or failure criteria have been set for either the 20 mph trial or for the speed bumps. Blair indicated that accident/casualty statistics, speeds analysis and the opinion survey to be conducted in August/September 2020 would be what is used. Blair stated that, as an engineer, his view was that full compliance with the 20mph speed limit should be the success criterion, but he did not expect this to be the outcome. Blair also stated that PKC Traffic and Networks exist to give the citizens what they want. They only seek to give informed advice.

Appendix 2 – Extracts from “Designing Streets – A Policy Statement for Scotland”

Introduction:

The plan for this trial may have been designed using local know-how, but there are National level documents on the topic. This Appendix provides some key comments extracted from the above document.

Much of this document is concerned with “new-build” street design and therefore is not totally relevant to the situation in Aberfeldy, but the principles it espouses as National Policy can guide the local solutions chosen.

Achieving appropriate traffic speed:

Design should be used to influence driver behaviour to reduce vehicle speed to levels that are appropriate for the local context and deliver safe streets for all.

Street layouts should accommodate emergency and service vehicles without compromising a positive sense of place.

The document espouses resolving conflicts between design goals and solutions by referring to the “Street Design Hierarchy” (next page).

“Other layout considerations” includes the following:

The need to mitigate noise pollution such as from roads or railways. In early discussions with PKC about rumble strips as a technique for speed reduction at the margins of the town we were strongly counselled against because of the noise pollution element. It is hard to understand why they are now advocating speed bumps right outside people’s homes, when noise is one of the many reasons these are disliked.

“Street layouts should be configured to allow walkable access to local amenities for all street users”.

This is the justification for the Sustrans application as PKC has not been able to allocate resource to this issue.

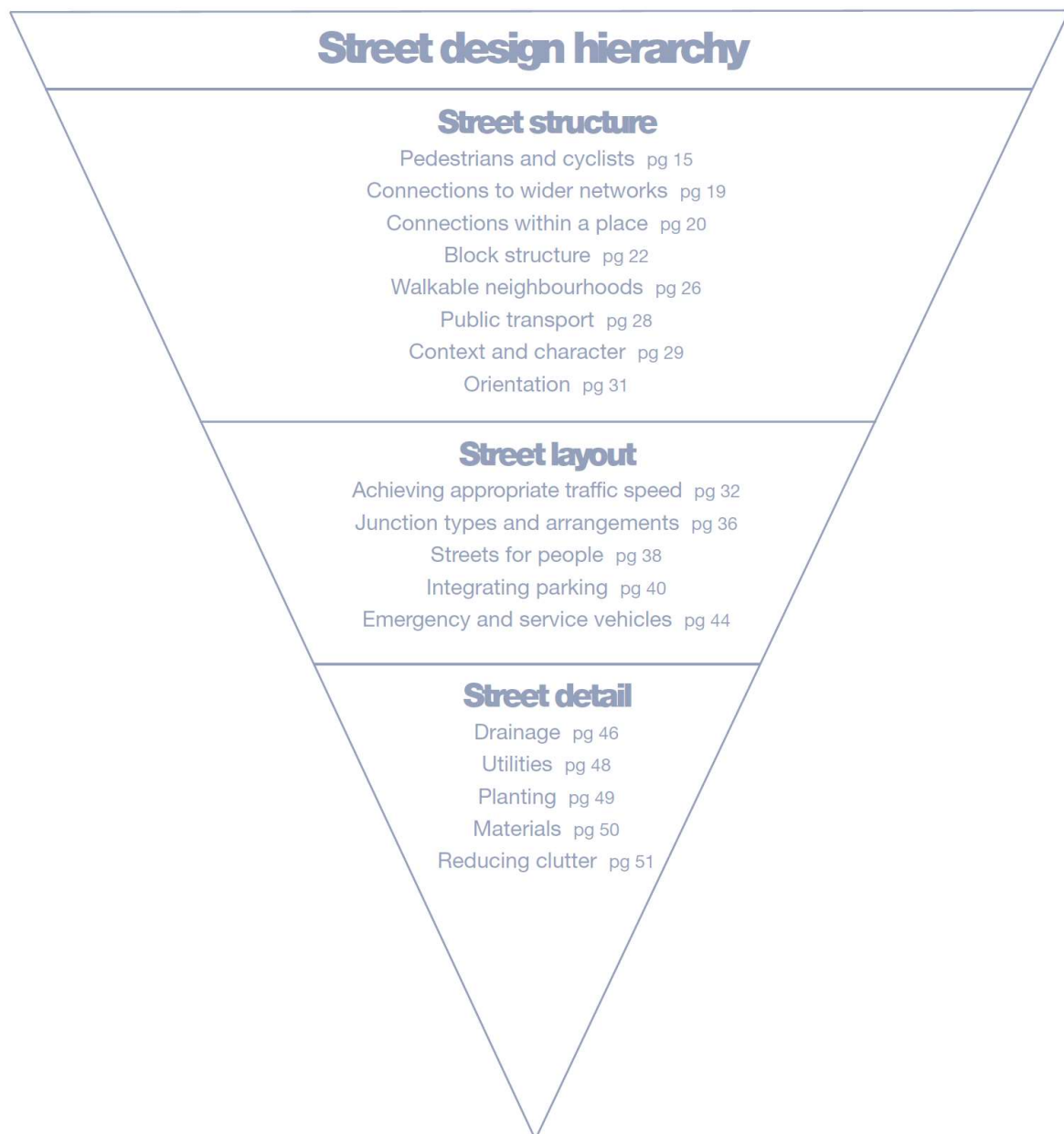
“For residential streets, a maximum design speed of 20 mph should normally be an objective. Designers should aim to create streets that control vehicle speeds naturally by well-crafted design from the outset rather than through unsympathetic traffic-calming measures added at the end of the design process.” Speed bumps are unsympathetic traffic-calming measures. However, it also says crucially in terms of the design of this trial “Evidence from traffic calming schemes suggests that speed controlling features are needed at intervals of around 60-80m in order to achieve speeds of 20 mph or less.”.

The range of traffic-calming measures available act in different ways:

Psychology and perception – play a strong part in influencing driver behaviour. Street features and human activity can influence the speed at which people choose to drive. Features likely to be effective include:

- edge markings that visually narrow the road – speed reduction is likely to be greatest where the edging is textured to appear unsuitable on which to drive;
- buildings in close proximity to the street;

- reduced carriageway width;
- physical features in the carriageway;
- features associated with potential activity in, or close to, the carriageway, such as pedestrian refuges;
- on-street parking, particularly when the vehicles are parked in blocks on alternate sides of the street, either in echelon formation or perpendicular to the carriageway;
- the types of land use associated with greater numbers of people, for example shops; schools and places of work; and
- landscaping.



Appendix 3

